

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A Group III nitride semiconductor device

eomprisingcomprising:

a sapphire substrate[[,]]; and

a plurality of Group III nitride semiconductor layers provided on the substrate,

wherein a first layer which is in contact with the substrate is composed of silicon-doped

$\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($0 < x \leq 1$) and has a structure formed of aggregated columnar crystal grains having a width of 10 to 50 nm.

2. (original): A Group III nitride semiconductor device according to claim 1, wherein the first layer contains silicon in an amount of 1×10^{16} to 1×10^{19} atoms/cm³.

3. (currently amended): A Group III nitride semiconductor device eomprising
comprising:

a substrate[[,]]; and

a plurality of Group III nitride semiconductor layers provided on the substrate, including
a first layer which is in contact with the substrate and a second layer grown on said first layer,

wherein-a said first layer which is in contact with the substrate is composed of $\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($0 \leq x \leq 1$), and the difference in height between a protrusion and a depression which are present at the interface between the first layer and-a the second layer provided thereon is 10 nm or more and is equal to, or less than, 99% the thickness of the first layer.

4. - 5. (canceled).

6. (previously presented): A Group III nitride semiconductor device according to claim 1, wherein the first layer has a thickness of 20 nm to 200 nm.

7. (currently amended): A Group III nitride semiconductor light-emitting device comprising comprising:

a substrate;

an n-type layer, a light-emitting layer, and a p-type layer, which are composed of a Group III nitride semiconductor single crystal and are provided on the substrate in this order;

a negative electrode provided on the n-type layer; and

a positive electrode provided on the p-type layer,

wherein there is a layer composed of silicon-doped $\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($0 < x \leq 1$) in contact with the substrate and the layer in contact with the substrate has a structure formed of aggregated columnar crystal grains having a width of 10 to 50 nm.

8. (canceled).

9. (withdrawn-currently amended): A method for producing a Group III nitride semiconductor device comprising a sapphire substrate, and a plurality of Group III nitride semiconductor layers provided on the substrate, wherein a first layer which is in contact with the substrate is composed of silicon-doped $\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($0 < x \leq 1$) and has a structure formed of aggregated columnar crystal grains having a width of 10 to 50 nm, which method comprises a first step of depositing, on the surface of the substrate, a layer containing fine Group III metal particles containing silicon; a second step of nitridizing the fine particles in an atmosphere

containing a nitrogen source; and a third step of growing a Group III nitride semiconductor single crystal on the thus-nitridized fine particles.

10. (withdrawn): A method for producing a Group III nitride semiconductor device according to claim 9, which further comprises, between the first and second steps, an annealing step of heating the fine particles in an atmosphere containing hydrogen gas and/or nitrogen gas.

11. (previously presented): A Group III nitride semiconductor device according to claim 1, wherein the first layer is composed of silicon-doped $\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($0 < x < 1$).

12. (previously presented): A Group III nitride semiconductor light-emitting device according to claim 7, wherein the layer in contact with the substrate is composed of silicon-doped $\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($0 < x < 1$).

13. (previously presented): A Group III nitride semiconductor device according to claim 1, wherein the columnar crystal grains have a width of 20 to 40 nm.

14. (previously presented): A Group III nitride semiconductor device according to claim 1, wherein the first layer is a continuous layer formed by a continuous formation of the columnar crystal grains.

15. (previously presented): A Group III nitride semiconductor device according to claim 3, wherein the thickness of the first layer is a thickness of a thickest portion of the first layer which has a maximum height of the first layer.

16. (previously presented): A Group III nitride semiconductor device according to claim 3, wherein the difference in height between the protrusion and the depression is a maximum height difference between a maximum protrusion and a maximum depression of an upper surface of the first layer.

17. (previously presented): A Group III nitride semiconductor device according to claim 16, wherein the maximum protrusion and the maximum depression of the upper surface of the first layer is a thickest portion and a least thickest portion of the first layer, respectively.

18. (previously presented): A Group III nitride semiconductor device according to claim 17, wherein the thickness of the first layer is the thickest portion of the first layer having a maximum height.

19. (previously presented): A Group III nitride semiconductor device according to claim 17, wherein the difference in height between the protrusion and the depression is 40 nm or less.

20. (previously presented): A Group III nitride semiconductor device according to claim 17, wherein the columnar crystal grains have a width of 20 to 40 nm.

21. (previously presented): A Group III nitride semiconductor device according to claim 3, wherein the difference in height between the protrusion and the depression is 10 nm or more and is equal to, or less than, 90% the thickness of the first layer.

22. (previously presented): A Group III nitride semiconductor device according to claim 3, wherein the difference in height between the protrusion and the depression is 60 nm or less.

23. (previously presented): A Group III nitride semiconductor device according to claim 3, wherein the difference in height between the protrusion and the depression is 40 nm or less.